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LECTURES.

CLINIC OF PROFESSOR FRANK H. HAMILTON: BELLEVUE HOSPITAL,
NEW YORK.

Dislocation of the Humerus, with Obscure Fracture about the Shoulder-Joint. — GENTLEMEN: The patient whom I now present to you, a man in advanced life, has occasioned no little interest and discussion among the surgeons of this hospital. The accident from the effects of which he is still suffering occurred nearly six weeks ago, and he was admitted to the house soon after it, but some little time before my term of service began. At the time of and soon after his admission, crepitus somewhere about the right shoulder-joint, the part injured by the fall which the patient had received, was distinctly recognized by a number of the house staff, who naturally become very skillful in such matters, and who would not be likely to mistake a little grating in a joint for crepitus. The latter is produced by fractures, and by fractures only; and the fact of there having been crepitus in the present instance was afterwards confirmed by Dr. Erskine Mason, one of our most distinguished surgeons. When the patient came under my charge I had no difficulty in making out a dislocation of the arm downwards, but it was too late to detect any crepitus about the joint. It is manifestly impossible for me to doubt the testimony of there having been at one time distinct crepitus, and, therefore, some sort of a fracture in this case; but at present, at all events, it is no easy matter to find out precisely where the fracture was situated. I should regard it as altogether improbable that there was any fracture of the ribs, on account of their remoteness from the seat of injury, and I cannot find any evidence of its having been located in the shaft of the humerus. Neither can I believe that the fracture occurred about the neck or head of the latter; and I am therefore driven, by a process of exclusion, to the opinion that it was probably near the lower edge of the glenoid cavity. This, you will understand, is only a conjecture on my part, but, under the circumstances, it is the nearest approach to a diagnosis that I am able to make. The patient has now been under my observation for three weeks, and during that time no new light has been thrown on the subject.

The attempt to reduce old luxations of the humerus is, as you are aware, fraught with no little danger on account of the great liability to rupture the axillary artery or vein in doing so, and a number of cases are on record in which death from hæmorrhage followed in a few minutes after the accident. The reason of this is that when any time has elapsed after a dislocation, the parts become more or less firmly united by adhesions, and any force that is necessary to break them up may also be sufficient to cause a rupture of the vessels. If this is the case in uncomplicated luxations, how greatly must the danger be enhanced when there is a fracture also present, on account of the roughened surfaces and perhaps even splinters of bone which may have been left by it. I have neglected to mention previously that in the present case a piece of bone, uneven in outline, can be distinctly felt in the immediate vicinity of the axillary artery, and on this account, if on no other, I should deem the risk entirely too great here to attempt to make any reduction of the dislocation. On making a careful measurement of both arms, from the acromion process of the scapula to the olecranon process of the ulna, I find that the distance is thirteen and a half inches in the well one and fourteen inches in the affected limb; and this lengthening is one strong evidence of there having been a luxation of the humerus. Prof. Stephen Smith, who is present with us to-day, unites with me in the diagnosis of dislocation and some obscure fracture, and agrees with me in the opinion (in which, I am sure, all other good surgeons would also coincide) that it would be entirely unsafe, for the reasons which I have just given, to operate here. But, "What," you say, "can nothing be done for this poor man?" An English surgeon, whom I do not care to name, had not a great while since a case very similar to this, and he undertook to make a resection of the joint; but, unfortunately for the success of the operation, the patient died on the table. While the joint is in a healthy state it is quite an easy matter to resect it, and even after an uncomplicated luxation has existed for some time the operation may be comparatively free from difficulty; but when there is an old luxation accompanied by a fracture, as in this instance, the difficulties and dangers of such an attempt are increased to an enormous extent. Under the circumstances, therefore, there is no course left us but to let our patient alone and tell him to try and make himself as comfortable as possible. It is, at all events, consolatory to know that he suffers less pain now than he did a short time ago.

Valgus of both Great Toes; Exsection.—The condition which you here see in this young man is not an infrequent one, but it is very rare to see so marked a case as this. Both the great toes are bent far around in an outward direction, and lie upon the plantar surface of the foot directly under the other toes; so you can readily imagine the inconvenience and suffering that the patient is thus occasioned. The affection is produced in various ways, and here it seems to have been

dependent upon a neuralgic condition, which produced at first spasm and then contractions of the muscles. You will see more cases of valgus (usually accompanied by bunions) in Charity Hospital than anywhere else, among the poor girls who have been accustomed to squeezing their large feet into their mistresses' cast-off shoes, which are much too small for them. Some four years ago, upon a patient in St. Francis's Hospital, I made a resection of the joint in both feet for this affection, and I believe it was the first operation of the kind that had been performed for the deformity. Though the man had been really a very great cripple previously, the operation was completely successful, and soon afterwards he was able to walk all the way out to Harlem, and back again, without any inconvenience.

Hueter in Germany and Hilton in England first performed exsection of this joint about the same time, and they have employed it a great deal, but always in cases where there was caries of the bones entering into the articulation. The only originality, therefore, that I can claim in reference to the operation is the enlargement of its scope by its employment for the relief of the deformity spoken of. After the exsection is made I do not force the toe into position, but allow it to be gradually drawn around into place by the ligaments which are left undisturbed. It is shorter by as much as the space occupied by the bone removed, and in consequence of the operation upon the joint has sufficient freedom of motion. After the operation the warm-water dressing is kept constantly applied until the danger of acute inflammation of the parts is past, and this has a marked tendency to prevent the troublesome abscesses of the plantar surface of the foot which are otherwise so liable to occur in these cases. The patient being now etherized, I commence the operation in the present instance, and I do not use the Esmarch bandage here, partly because it might be necessary to keep it on for so long a time, and partly because the amount of blood lost will not be very large. Mr. Hilton has been accustomed to make a flap over the joint, and I purpose here to follow his example, though I have usually made a straight incision. A flap of the size which I have now made, however, is not very liable to slough. Dr. Rose, of St. Francis's Hospital, who has performed the operation several times, prefers to resect the bone before going into the joint, but I think it is better to open the joint first. Now, having done this, I am enabled to get a chain-saw under the phalanx, but as I never saw but one good chain-saw in my life and that was stolen from me, it does not answer very well, and I have to resort to a narrow, straight saw. In a chain-saw the tooth-surface ought always to be wider than the back, and this is scarcely ever the case. By means of the saw I have removed a considerable piece of the phalanx, and you see that we are able to put the toe in very good position, the cut surface of the bone being quite smooth and even. (In the same manner the exsection of the joint was made in the other foot.)

RHINENCEPHALUS AND SOME ALLIED FORMS OF MONSTROSITY.¹

BY J. B. S. JACKSON, M. D.

At a recent meeting of the society, Dr. William W. Wellington, of Cambridgeport, exhibited a human foetus, born at seven and a half months, and a typical specimen of the form of monstrosity that is known as the Rhinencephalus or Cyclops. A cast in plaster was taken for the Warren (Medical College) Museum, and on the following day the dissection was made. The weight of the foetus was three and a half pounds (avoirdupois), and the length fifteen and a half inches. Sex female; as St. Hilaire, whom I shall often quote in regard to various points, states² that it usually is in the Cyclops. He says, also, that in the human subject, but not in the lower animals, there are usually six digits upon one if not all four of the extremities. The present case, however, was an exception to this last rule, and the subject was well formed externally and internally, excepting the parts that will be described. The eye appeared to be single. The proboscis, for it can hardly be called a nose, though that would be its proper name, was three fourths of an inch in length, and, with its terminal orifice, most strikingly suggested the idea of a penis, for which organ some of the old anatomists mistook it in these cases. It was about as large as the penis of a new-born child, was directed upwards, was lined by a well-marked mucous membrane, and ended in a cul-de-sac.

On dissection, four days after the birth of the foetus, the brain was still in a fair condition. According to St. Hilaire, there are no convolutions upon the surface, there is no division into hemispheres, the organ is generally smaller than the cranial cavity, the space that is left around it is filled with serum, and the lateral ventricles form one cavity and generally unite with the fourth. In the present case there were no convolutions, and the cerebrum formed a continuous mass, but the brain filled the cranial cavity. The lateral ventricles appeared to form one great and common cavity; and from it there were removed, by measurement, just four ounces of clear serum, with a very trifling loss. The parietes of this cavity must have been about two lines in thickness, and the interior was traversed by a septum of cerebral substance of some thickness; and not longitudinally, as one might suppose, but transversely. This septum was torn in the handling of the parts, and how far it was perfect was not ascertained. The opening into the fourth ventricle was very distinct, but not at all enlarged. Cerebellum, pons, and medulla oblongata appeared to be normal. The optic and olfactory nerves were carefully searched for, but no trace of them was found.

¹ Communicated to the Boston Society for Medical Improvement, December 10, 1877.² *Anomalies de l'Organisation*, tome ii., pages 375-437.

St. Hilaire says that the last are wanting, but he states very positively that the optic nerves exist, unless the eye is wanting, though they are fused wholly or in part. The third pair of nerves was most remarkably distinct, from where they arose in front of the pons to where they penetrated the dura mater on their way to the orbital cavity, and not to one side, but upon the median line, and so close as almost to touch.

There were two pairs of eyelids, as usual, of a lozenge form, and insufficient as a covering for the eye; but this last, when removed, appeared no larger than a single organ, and was of a globular form. No trace of an optic nerve was found. The muscles were not very satisfactorily made out, but in regard to number there seemed to be no more than would belong to a single organ. The eye was put into alcohol and corrosive sublimate, and a few days afterwards was examined by Dr. David Hunt, who has made so many very delicate microscopical examinations and preparations of the eye and ear of the foetal pig. The following is a report by Dr. Hunt of what he found in the present case:—

"The eyeball appeared as if flattened in vertical diameter; cornea and pupil oblong; there was a cleft in under side of vitreous into which a fold of retina extended; retinal pigment was continuous under this fold; there was one lens, oblong in shape and having a line of pigment in the inferior surface of its posterior half; ciliary body normal; near the posterior pole of the eye was a circular spot, three mm. in diameter, which was free from pigment; this spot had a regular contour.

"The following are some of the measurements of the eye and its parts in millimetres: Horizontal axis of eye, $15\frac{1}{2}$; antero-posterior axis, $15\frac{1}{2}$; posterior pole to superior border of cornea, $20\frac{1}{2}$; posterior pole to inferior border of cornea, 18; horizontal measurement of cornea, $10\frac{1}{2}$; vertical measurement of cornea, 6; horizontal axis of lens, $6\frac{1}{2}$; vertical axis of lens, 5; from posterior pole of lens to attachment of zonula Zinii, superiorly, $5\frac{1}{2}$; same measurement inferiorly, $3\frac{1}{2}$; circumference of lens at attachment of zonula Zinii, $19\frac{1}{2}$; circumference of lens antero-posteriorly, 17.

"The fold of retina extending into the vitreous being free from pigment, the pigment layer presenting no break like that seen in ordinary foetal fissures of a single eye, would lead us to think that the fusion had occurred before the foetal fissure closed, and indeed before the appearance of pigment in the retina; the complete fusion of the lenses would lead us to conclude that at the time of fusion these structures were yet hollow; these conclusions would of course place the date of fusion in the earliest period of the existence of a secondary optic vesicle, or perhaps during the period in which there was only a primary vesicle."

Between the skin and mucous membrane of the proboscis there was

throughout a thin layer of cartilage, and at the base a small bone, inferiorly; but nothing was found that resembled the nasal bones, either in the form of bone or of cartilage.

The cranium, having been prepared, presents the following appearances: The two frontal bones are as distinct as in any fœtus, though St. Hilaire says that in the family to which the Cyclops belongs they are almost always fused. He also says that they are much narrower than usual, and especially in front; but such is not the case in the present specimen. The orbital cavity, which is of a somewhat quadrilateral form, is bounded superiorly by the orbital portion of the frontals, and by a bone that is connected with them upon the median line, and that is shown by the examination of other specimens to consist of the small wings of the sphenoid. Inferiorly, it is bounded mainly by the two maxillary bones, of which the upright portions are turned downwards and inwards, and come together, but without fusion. In front of this surface there is a small median bone that consists of the two lachrymals, fused together and probably to the maxillary, and showing in the centre a blind foramen that is so large as to give it quite a tunnel-shaped form. Upon the sides are the malars, and posteriorly the great wings of the sphenoid. A large deficiency of bone upon the median line represents the foramen lacerum anterius of the two sides, fused; and in the recent state this was filled up mainly by connective tissue. The palatine portions of the maxillary bones, which are fused, are narrow, as usual, in proportion to their length, and have a sharp, longitudinal ridge along the median line. The proper palatine bones are also fused, there being no nasal cavity. St. Hilaire says that in the pig an upper median tooth is almost always found, but he says nothing of it in the human subject. In this case, however, there are between the right and left molars three alveoli, one upon each side and one central; and as each of these contains a sharp-pointed crown they must be regarded as canines. The body and the great wings of the sphenoid are sufficiently well developed, and the small wings show a minute foramen as for an optic nerve, though no such nerve was found. The parietals, occipitals, and temporals are normal, and all of the other cranial bones are wanting.

In the Warren Museum and in that of the Medical Society there are sixteen specimens of rhinencephalus and some allied forms of monstrosity, or representatives of them, and of these a summary description will now be given. The first three are in the Warren Museum, and the first has been described in the printed catalogue.

No. 842. A human fœtus. Six and a half months. Two eyes, fused. Proboscis one and a half inches by one inch, and with an opening half an inch in diameter. It is anencephalous as well as rhinencephalous, and

though St. Hilaire refers to several complications, this is one to which he does not allude. The spinal canal is open throughout, and a large mass of brain lies exposed upon the upper part of the back. Cruveilhier reports and figures a very similar case,¹ but it appeared after St. Hilaire published.

No. 3908. A human fœtus, born in the practice of Dr. M. B. Leonard, of East Boston. Breech presentation, and length seventeen inches. Drawing of external appearances by Dr. Fitz. The proboscis hung down over the central eye, long and slender, but enlarged towards the extremity. Left side of face much fallen in, and much less developed than the right.

The cranium is very irregularly developed. Frontals fused. Orbital cavity deep, oval transversely, but vertical diameter short, and bounded inferiorly by the upper maxillary bones, which are extensively fused. The body of the sphenoid, and the large and the small wings, are also fused, and these last are broadly connected with the frontals and irregularly developed. The right lower maxillary bone is normal, but the left turns upwards and becomes closely and extensively fused to the upper maxillary, malar, and great wing of the sphenoid upon the left side, the alveoli of the upper and lower maxillary bones being directly continuous. The left malar bone is also fused with the frontal. The left great wing of the sphenoid and the left temporal are imperfectly developed, and the zygoma is wanting. Between the occiput and the left parietal is a pretty large Wormian bone.

As I have never heard of a case here of Cyclops in the human subject until so recently as the year 1868 (and since then there have been five), I would allude to one of them that occurred in the neighboring town of Medford within two or three years, and of which a stereograph has been presented by Dr. D. Hunt (No. 4842); the proboscis turning upwards, and showing the central eye below.

Of the next nine subjects seven are pigs, in which animal, according to St. Hilaire, one half or more of all the cases of rhinencephalus have occurred; one is a dog and one is a colt; this form of monstrosity having been observed in a variety of animals and even in birds. These specimens belong to the society's museum, excepting one, and five of them, which are preserved in spirit, show a very long proboscis.

No. 824. Entire. Two eyes fused.

No. 825. Head only. Two eyes fused. Deficiency of integument and of cranium to a considerable extent between the eyes and proboscis, a complication not referred to by St. Hilaire.

No. 1283. Head only. One eye.

No. 1502. Skin of head stuffed. Eyes fused, and proboscis turned upwards and backwards. No. 1505 is a drawing of the entire animal

¹ Anatomie Pathologique, Livraison xxxiii.

by the late Prof. Jeffries Wyman, who published in the JOURNAL¹ a full report of the dissection and of the osteology.

The four following crania were prepared by Professor Wyman, and form a part of the very valuable anatomical collection that was left by him to the society. In each of them the nasal bones are very considerably developed, but distorted and apparently fused superiorly, though open inferiorly. These bones, which seem to have been accidentally fractured in the skull (No. 1421) that was described by Professor Wyman, and that belongs with No. 1502, were regarded by him in that specimen as the intermaxillaries, and the fragment that lies between them and the frontals he regarded as the nasals. He probably had not yet seen and prepared the three other crania when he wrote his description. The difference between this cranium and the others was most unaccountable, but Mr. B. H. Van Vleck, the assistant curator of zoölogy in the museum of the Society of Natural History, who has examined the specimens here described with the greatest care and interest, has, I believe, solved the mystery in suggesting the idea of a fracture. The frontals are separate throughout as two bones in No. 1421, but in the other crania the division is very faintly marked or only partial. The orbital portions are turned in so as fully to occupy the place of the ethmoid, and in each skull there is an opening of considerable size into what may be called the nasal cavity, and as if for the passage of an olfactory nerve if one had existed. There is also in three of the crania a small, flat, median bone between the frontals, and just in front of the orbital portions. This bone, which I cannot name, is wanting in No. 1421, but there is an open space where it had probably existed. The anterior sphenoid is connected with the large wings and with the frontals so as to form the roof of the orbital cavity, and three of them have upon the median line a foramen, undoubtedly for the passage of an optic nerve. In two the anterior sphenoid is far separated from the posterior, so as to leave a large open space; in one there is a strong union upon the median line by bone, and in one a delicate tongue of bone and cartilage connects the two. The upper maxillaries are fused, and the palatine portions are narrow, curved downwards, and with a prominent ridge along the median line. The median tooth, to which St. Hilaire alludes, exists in three of the skulls, and, as he remarks, it is in a groove, and not in a proper alveolus. Upon each side of it is another tooth, and all three of them, which are similarly and well developed, seem to be canines, and thus correspond with what was observed in Dr. Wellington's case. Between these canines and the molars there is an alveolus in each of the skulls, but in only one of them is there the crown of a tooth, and that is very minute and sharply pointed. The lachrymals are distinct along the front edge of the orbital cavity, and

¹ Vol. lix., page 121, September 9, 1858.

show two foramina, but are fused. The posterior nares are closed by a fusion of the palatine bones, as in Dr. Wellington's specimen. Ethmoid, vomer, and turbinated bones wanting, and the other bones of the head are not remarkable.

As some points in the above description may require confirmation, and as there was at least one bone that I could not name, I submitted the whole subject to Mr. Van Vleck, and, by a careful study of the structure and development of the early foetal cranium, he has shown very satisfactorily what bones are here represented. The following are his remarks:—

"The long tubular bone appears to represent the coalesced nasals. All traces of a suture on the median line above have, however, disappeared, if a suture ever existed. Judging from the appearance of this bone, it seems to have ossified from a single centre on the median line, or from two closely approximated centres.

"It certainly does not appear, in any of the skulls in question, to represent the intermaxillaries, as has been suggested: first, from its connection with the frontals on the median line above; second, from its roofing over and nearly surrounding the nasal chamber: third, in all the specimens there is on the under side of this nasal tube a rather broad line extending its whole length, in which no bone is developed. It is as though a broad plate of bone, lying in the upper wall of the nose, had been folded downward and inward on each side, so as to bring its edges near together and forming a nearly complete tube. Now, if this bone represented the coalesced intermaxillaries, this line of separation of the edges would be indicated on the *upper* side and not on the under, as is the case.

"If the intermaxillaries are represented at all, it is probably by a small bone situated near the base on the under side of the long tubular bone and forming a portion of the wall of the nasal chamber. This small bone is present in all of the skulls except one, from which it appears to have been lost. The intermaxillaries are certainly not present in front of or near the maxillaries. It is evident that the bones bearing teeth are maxillaries *only*, as each terminates abruptly immediately in front of the canine tooth. From the manner in which the skull is developed we should not expect to find the intermaxillaries in front of or near the maxillaries. In all the skulls in question many of the peculiarities appear to have originated in the arrest of the normal development of the bones of the face, caused by the movement of the eyes toward the median line and coming near together, or coalescing, to form a single eye. If, at an early period, the normal development of the bones be arrested in this manner they must, if at all developed, be divided into two more or less widely separated groups, the lower consisting of the palatines, pterygoids, maxillaries, and lachrymal bones, and

the upper of the nasals, intermaxillaries, and ethmoid. The palatines, pterygoids, and lastly the maxillaries are developed in the *maxillary process*, which, at an early period, grows forward on each side from the first visceral arch, and forms the upper lateral margins of the mouth.

"The nasals are developed in the upper and the intermaxillaries in the lower portion of the *fronto-nasal* process, which grows downward and forward, so that its lower end passes between and in front of the anterior ends of the maxillary processes.

"The *fronto-nasal* process is at first distinctly separated from the *maxillary* process. If at this period the eyes move toward the median line of the face so as to prevent the fronto-nasal process from growing downward and forward to form the maxillary process in front, the intermaxillaries will not be developed in their normal position in reference to the maxillaries, but will appear with the nasals above and separated from the maxillaries by at least the space occupied by the two closely approximated eyes or the single eye.

"Now the position of the small bone near the base of the nasals is such as we should expect in these cases of abnormal development. And, as it cannot be identified with any other bones or bone of the normally developed skull, it appears to me, without doubt, to represent the coalesced intermaxillaries.

"The two bones lying upon the maxillaries at a short distance from their anterior ends appear to be the lachrymal bones, as these are in all mammals developed in an immediate relation to the maxillaries. In two of the skulls, if not all, these bones are each provided with a canal, which is, perhaps, the lachrymal canal."

No 1659. The upper and lower maxillary bones of a cyclopean colt. The lower is nearly seven inches in length, and normal; the upper nearly three inches and a third, and terminates abruptly in front of the molar teeth, as in the pig; the two bones, though scarcely fused, form the floor of the orbital cavity.

No. 4835. A rhinencephalous dog, presented to the Warren Museum by the Boston Society of Natural History. Not dissected. Sex, female.

No. 1506. Brain of No. 1421. No division into hemispheres, and through an opening upon the surface a large cavity is seen within.

No. 1747. A second specimen, and similar to the last.

No. 1748. Anterior portion of a double eye, the two lenses being at some distance apart.

Besides the above specimens there are in the medical society's museum two allied monstrosities in the pig, and that are preserved entire, and the head of a third in the Warren Museum.

No. 1181. Otocephalus (St. Hilaire). A long proboscis, and two eyes, about one fourth of an inch apart. No mouth. The maxillary

bones being atrophied in these cases, the ears are closely approximated. Two blind openings, between the ears, which St. Hilaire would consider as attempts at a meatus auditorius, one upon each side of the median line, and about two lines apart, and, just outside of these, the openings to the conchæ.

No. 1182. *Triocephalus* (St. Hilaire). Ears as in the last case, but more approximated, and with no appearance of an opening unless to the conchæ. Mouth, eyes, and proboscis wanting.

No. 869. Head only preserved, and described in the printed catalogue of the Warren Museum. Two fully developed ears, with an opening between them about one fourth of an inch in diameter, and through which air could be forced from below. Rather more than an inch above this opening is a rounded, fleshy mass, also about one fourth of an inch in diameter, and that must represent the proboscis. No appearance of an eye. Back of head well formed, as was the animal, otherwise, externally. According to St. Hilaire's classification this specimen would be intermediate between *otocephalus* and *triocephalus*.

Lastly, there is, in the Warren Museum (No. 4714), the cast of a *cyclocephalus* (St. Hilaire) that was taken by Dr. Norton Folsom. There was a single and apparently well formed eye, and a very perfect mouth, but no trace of a proboscis. The subject was a human fœtus, at or near the full term, and otherwise fully and well developed. Sex, female. No dissection.

RECENT PROGRESS IN THE TREATMENT OF CHILDREN'S DISEASES.

BY D. H. HAYDEN, M. D.

*Kjellberg on Contraction of the Anus in Children.*¹—The author² prefers the term contraction to that of fissure, because he considers the spasm the more essential symptom. This affection is more common in children than is generally supposed. Thus, out of nine thousand and ninety-eight children brought to the Polyklinik of Stockholm it occurred in one hundred and twenty-eight. Of this number sixty were boys, sixty-eight were girls and the majority (one hundred and three) were a year old or under, no fewer than seventy-three being less than four months of age. The contraction may be seated in the external sphincter, but the internal sphincter is much the more common site. The symptoms resemble those observed in the adult, but are less severe. In enumerating the causes the author remarks that the fissure is by no means necessarily primary. It may be caused by the passage of hard-

¹ London Medical Record, October 15, 1877.

² Nordiskt med. Arkiv, Band viii., Hef 4.

ened faeces through the contracted orifice. Further, the contraction may exist without the fissure, and *vice versa*. For treatment, the author relies with confidence upon forcible dilatation with the fingers. At the same time he does not neglect to remove any condition that may stand in a causal relation to the affection, such as constipation, worms, rectal catarrh, etc.

*Notes on Pleuritic Effusion in Childhood.*¹ — The above paper, presented at the annual meeting of the British Medical Association, August, 1877, was based exclusively on what the authors had observed, either conjointly or separately. The notes were laid down on the following lines: (1.) The difficulties of diagnosis between pleuritic effusion and other chest affections in childhood; (2) the difficulties of diagnosis between serous and purulent effusions; (3) the natural course of pleuritic effusion in childhood when unmodified by treatment; (4) the methods of treatment which had appeared to them the most successful. The authors concluded that the variation in the classical signs and symptoms is so great that in many instances the diagnosis cannot be cleared up without exploratory puncture. They recommended the use of the hypodermic syringe in every case of doubtful dullness in the pulmonary regions. They laid great stress on the fact that, in children, extreme retraction of one side of the chest is compatible with the existence of both serous and purulent collections in the pleura of that side. The old teaching that the passing of a serous into a purulent effusion could be discriminated by the onset of hectic they believed to be incorrect. Marked hectic occasionally occurs with serous pleurisy, whereas in many cases of empyema it is present in very moderate amount, and for some days not at all. Clubbing of the finger ends they had never seen with simple serous effusion, but they had seldom seen an empyema without it. The natural issue of unmodified serous effusion appeared to be absorption, in most cases, sooner or later. Serum may continue serum for many weeks without being converted into pus. Alongside of facts showing this was to be remembered the extreme frequency of empyema in young children, and it seemed a question whether many cases of empyema are not empyema *ab initio*. As to the relation between tuberculosis and empyema, it was believed that the tubercle is more frequently secondary to the empyema than the reverse. With respect to spontaneous evacuation, that, by means of rupture into the lung, had appeared the least unfavorable, but it had been very uncertain, and protracted external spontaneous evacuation — between the clavicle and the nipple — had not given a good result. In the treatment of serous effusions the diagnostic puncture by a hypodermic syringe, the authors were quite sure, had been followed in

¹ By Thomas Barlow, M. D., and R. W. Parker, M. R. C. S. (London). *British Medical Journal*, August 25, 1877.

some cases by rapid absorption. Where the history is recent, the effusion serous and small or moderate in amount, they preferred to abstain from further operative interference. Where three weeks elapse without improvement, they would try the effect of removal of a small quantity either by the hypodermic syringe or the aspirator. If the effusion be considerable, it is right to perform paracentesis at once, not only to relieve dyspnœa, but to give the lung a chance of reëxpansion before adhesions bind it down, quite irrespective of pyrexia. If the fluid be purulent, it is recommended to withdraw as much as possible with a hypodermic syringe capable of holding at least two drachms. Occasionally, this will remove all that is present in one spot, and gently moving the needle will give information as to the size of the cavity. The authors had found by experience the necessity of bearing in mind the possible existence of multiple collections of pus completely separated by adhesions. If there be more pus at a given spot than the hypodermic syringe will remove, it is better to introduce the aspirator-trochar. The authors had not seen any English aspirator equal to that of Potain as made by Matthieu of Paris. A little bleeding in the course of the paracentesis had frequently stopped after the valve had been shut off a few moments. If, after reopening, blood should continue to come, it was recommended to stop the aspiration. In a large number of cases aspiration had been performed under anæsthetics. This appeared to have three advantages: (1.) The facility thereby gained of making a thorough exploration; (2) the avoidance of shock and collapse; (3) the avoidance of the troublesome cough so well known at the conclusion of paracentesis thoracis without anæsthesia. Chloroform preceded by a small dose of brandy appeared to them better than ether for these cases, and it was believed strongly that if anæsthetics be used at all they should be pushed on to complete insensibility. When the effusion was general, the authors found the angle of the scapula a better position for puncture than the midaxillary line. In localized effusions the puncture ought to be made at the centre of maximum dullness. In a certain number of cases there had been excellent recovery after a single aspiration; seven, at least, of such cases had been observed. Successful results had been obtained after repetition of the paracentesis up to six times. If the pus do not become fœtid, and if at each successive operation the quantity notably diminish, there seems no reason to limit the number of attempts to be made to cure the empyema by repeated aspiration. If the pus should become fœtid or rapidly reaccumulate in larger quantity, permanent drainage is recommended. In all cases it was contended that this should be by a double opening. If possible, the first opening should be made in the front of the thorax, and the second below and internal to the angle of the scapula. A long probe, threaded with a piece of drainage tube, may be passed downwards and

backwards from the first opening, and the second incision made over the point of the probe when it is felt through the integuments. The drainage tube should then be drawn through and secured by tying the two ends together. The authors contended that by the method of double opening there is the certainty of more complete and rapid evacuation of pus, and consequently of more rapid adhesion of the parietal and pulmonary pleura than by the single opening. They had often seen difficulties with respect to evacuation arise when a single opening had been made only in the midaxillary line. Apart from the unfavorable shape of the pleural cavity for drainage, it was important to bear in mind that when retraction begins to take place the ribs approximate most in the axillary region; and in a child, especially, there is risk of the intercostal space through which the tube passes being so narrowed that the tube is gripped by the two contiguous ribs. In front and behind, the width of the intercostal space is greater and undergoes less diminution as the side retracts. Most of the cases with which the authors had been concerned were dressed with oakum. They had seldom had need to use stimulant injections, but in one case they saw marked and rapid improvement from the use of a solution of quinine.

*Muriate of Pilocarpine in the Diseases of Children.*¹— This medicine has already been employed by the author in thirty-three cases. The diseases were as follows: desquamative nephritis with dropsy, following scarlatina, eighteen; diphtheria followed by parenchymatous nephritis with extensive general dropsy, three; dropsy consequent upon disease of the heart, two; acute rheumatic polyarthritis, three; severe broncho-pneumonia, three; tussis convulsiva, two; epidemic parotitis, two. In the latter the medicine was used for its sialogogue effect. The ages varied from nine months to twelve years. The larger number were under seven, and nine were under three. A two per cent. solution was used, and the remedy given subcutaneously. The dose employed was, for infants under two years, about one thirteenth of a grain; for those between two and six years, from about one tenth to one seventh of a grain; when between seven and twelve, one seventh of a grain at the first injection, and later, according to circumstances, from one fifth to one third of a grain. As a rule, but one injection was given daily. In exceptionally urgent cases, when, for instance, there was suppression of urine for twenty-four to thirty-six hours, with symptoms of uræmia, two to four injections of one sixth of a grain each were given in the twenty-four hours. With the exception of two cases the injections were uniformly well borne. In these there supervened after each injection vomiting, hiccough, faintness, repeated yawnings, and general trembling of the extremities. The above disagreeable

¹ Central Zeitung für Kinderheilkunde, Berlin, No. 1, October 1, 1877, by Prof. R. Demme, Physician at the Children's Hospital, Berne.

symptoms were very much diminished by preceding each injection by a small quantity of cognac.

In all the other cases the pilocarpine proved itself to be a very efficient diaphoretic and sialogogue. In children over four years of age the diaphoretic action predominated over the sialogogue; in those between one year and two years of age the reverse was the case. The action of the medicine began to show itself from three to five minutes after it was injected; it then reached its greatest intensity within ten to fifteen minutes, remained stationary during twenty to forty minutes, exceptionally during fifty to seventy-five minutes, and then gradually decreased, continuing, however, for several hours in a very moderate degree. In one case only did it act differently from this, the diaphoretic action ceasing abruptly after eight or ten minutes. In the great majority of times the diaphoretic action lasted longer than the sialogogue.

It was particularly in cases of desquamative inflammations of the kidneys, with dropsy, following scarlatina, diphtheria, etc., that the value of this remedy as a diaphoretic was made manifest. In the majority of these cases diuresis was also excited; while at the same time the amount of albumen and blood was not increased, but rather diminished.

There was no demonstrable influence upon the activity of the heart's action.

*The Use of Salicylate of Soda in the Febrile Diseases of Children.*¹ (Hagenbach.) — The author gives in this article the results of his large experience with this remedy, which has become a very favorite one in the Children's Hospital at Basle. The following have been found to be the medium doses, generally divided into two portions, and given with an interval between them of half an hour: for children under one year, fifteen grains; when between one year and two years, from twenty-two to thirty grains; for those between three and five years, from thirty-seven to forty-five grains; when between six and ten years, from fifty-two grains to a drachm; when between eleven and fifteen years, from one drachm to two scruples. The best hour for its administration is five o'clock in the evening. It is seldom given more than once in the twenty-four hours, and when possible it should be taken on an empty stomach. When sweetened it is taken much more willingly than quinine; the desired action of the latter, however, is much more uniformly observed than that of the former. It happens oftener that after large doses we do not obtain the sought for results than that small doses act too powerfully. In continued fevers the first doses appear to produce more decided antipyretic effect than the subsequent ones, causing a reduction in temperature from one and a half to four degrees, as a rule, within three hours after it has been taken. The greatest re-

¹ Correspondenz-Blatt für Schweizer Aerzte, No. 15, 1877. Medicinische Central-Zeitung, October 10, 1877.

mission occurs after six hours. With the fall of temperature there was regularly a diminished frequency of the pulse and of respiration. Unpleasant secondary effects are sometimes experienced. It is not rare that the medicine is vomited. If the vomiting does not take place until from one quarter to one half an hour after its administration there often ensues a complete remission notwithstanding. When the first dose is vomited the second, given half an hour later, is often retained. Diarrhoea is sometimes produced by its use, which is, however, of a very transient character, and does not leave behind it any serious disturbances of digestion. When there is restlessness, as shown by an anxious countenance, talkativeness, etc., this passes off with the appearance of the remission, and a quiet sleep follows the breaking out of the perspiration. Symptoms of collapse are extremely rare. Marked ringing of the ears or deafness never takes place.

Whereas it was previously at this hospital a frequent occurrence in the treatment of febrile diseases in children to make use of baths, wrapping in wet sheets, and of ice-bladders, in addition to the energetic employment of quinine, it is not now uncommon for weeks to elapse without a single bath being given for the purpose of reducing the temperature. In the severe forms of scarlet fever or of typhoid fever baths are still resorted to, but in the lighter forms salicylate of soda is always used instead. It is only now and then that, on account of nausea or repeated vomiting, it is found necessary to abandon its use and to resort to quinine.

*Typhoid Fever in Children.*¹ (Henoch.) — This report is based upon ninety-seven cases. Of these the largest number were between six and nine years of age. It was extremely rare in the first two years of life. Boys were oftener affected than girls. The difficulties in the way of diagnosis were often very great, even in fatal cases, owing to the frequently very slight anatomical changes left behind, which, moreover, often presented nothing characteristic of the disease.

In a few cases the disease began suddenly with a chill, followed by a rapid increase of temperature, reaching in the first days 105.8° F., or higher. It ran, for the most part, the same favorable course as with adults, lasting from two to three weeks, in one case only one week, in four cases seven weeks. The stage of decrease began abruptly in six cases, without, as usually happens, there being any stadium intermittens. The pulse was often slow in relation to the increase of temperature. The nervous disturbances were much less marked than they are found in adults, and bore no relation to the height of temperature, so that they cannot be explained by the latter alone. During the stadium intermittens there were often serious nervous troubles, such as aphasia, paralysis, amaurosis. The duration of these varied, and they terminated nearly always favorably.

¹ Annual Report for 1875. Charité Hospital of Berlin.

Hæmorrhage from the intestines took place four times. The cases in which it occurred recovered. There was one case of perforation of the intestine, with fatal peritonitis, and one case of parotitis which resulted fatally.

Decubitus occurred in four or five cases; but in none of these was it extensive or dangerous. Relapses took place sixteen times. In four of these there had been given no cooling baths, in four only a few, and in eight a great many. None of these sixteen cases died.

With regard to treatment, Professor Henoch warns against the use of cold-water baths, owing to the liability of their causing collapse. To bring down the temperature quinine and salicylate of soda are more effective than baths (77° to 81.5° F.). In other respects the treatment was purely symptomatic, great attention being bestowed upon the cautious administration of nourishment.

Syphilis of the Testis in Infants. — Professor Henoch reports¹ seven cases of this disease. In one case, which died of dysentery, there was found an extensive interstitial hypertrophy of connective tissue, which was most marked in the corpus Highmori. From this and an analogous case of Deprés, the author draws the conclusion that in the early stages of interstitial orchitis recovery by mercury is possible. Later, when there takes place a new formation of fibrous tissue, no change can be effected by treatment. The age of the children was from three months to two years and a half. In four cases both testes were affected, in three the left only. The author had met with four cases of tuberculosis of the testis in children. This disease was invariably limited to the epididymis, and consisted of hard nodular masses. There was, at the same time, in all the cases tuberculosis of the lungs or cheesy inflammation of the bones, and all symptoms of syphilis were absent.

PROCEEDINGS OF THE SPRINGFIELD SOCIETY FOR MEDICAL IMPROVEMENT.

G. S. STEBBINS, M. D., SECRETARY.

DECEMBER 26, 1877. The president, Dr. S. W. Bowles, in the chair.

Rabies and Hydrophobia. — Charles P. Lyman, V. S., read a paper upon this subject, declaring at the outset that no satisfactory answer could be given to the question, What is hydrophobia?

We know that it is readily communicated to other animals and to man through the medium of the dog-bite and the contact of the saliva with the open wound, the absorbents of which take up the poison, securing its general diffusion throughout the system through the medium of the circulation. Any other liquid than the saliva taken from a rabid animal is harmless, even trans-

¹ Deutsche Zeitschrift für praktische Medicin, 1877, No. 11.

fusion of blood from the rabid into a healthy animal having failed to produce any deleterious results.

The saliva of the canine and feline families is the most virulent, that of the herbivora much less so, while man is allied to the latter class in this respect.

In the rabid dog the disease is at first almost invariably of a gentle type, which is always followed by a period during which the desire to rove is altogether unconquerable, and will be gratified unless the animal is securely confined. The writer presented the following statistics collected by M. Bouley, of the Institute of France, and which extend over a period of several years. France being divided into departments, with inspectors appointed for each one, the reports gathered from these sources are more valuable and accurate than can be obtained from any other quarter.

There were three hundred and twenty persons bitten by rabid animals, with the result of hydrophobia in one hundred and twenty-nine, giving a mortality of forty per cent.

Out of the three hundred and twenty cases, the wounds were not followed by the disease in one hundred and twenty-three, showing the established rate of innocuousness to have been about thirty-eight per cent.

There still remain sixty-eight cases in which the termination is not reported, the plausible supposition regarding them being that they also escaped. Of the three hundred and twenty cases, two hundred and six were males, eighty-one females, and in thirty-three cases the sex was not mentioned.

Mortality varies in the sexes, as shown by the fact that, out of two hundred and six male cases one hundred died, and out of eighty-one female cases twenty-nine were fatal, which is equivalent to forty-eight per cent. of the former, and thirty-six per cent. of the latter.

The greatest number of persons bitten was between five and fifteen years of age, the careless, teasing ages of children. While more children are bitten than adults, it is shown that the former enjoy the greater freedom from the disease, the supposition being that they are less likely to contract it on account of their natural freedom from anxiety, and their consequent mental quietude.

Out of the three hundred and twenty bites inflicted, two hundred and eighty-four were by male dogs, twenty-six by females, five by cats, and five by wolves.

As regards the distribution of cases throughout the year, the following facts appear:—

December, January, and February, seventy-five; March, April, and May, eighty-nine; June, July, and August, seventy-four; September, October, and November, sixty-four. These facts show that temperature or the season of the year has but little to do with the prevalence of the disease.

Concerning the stage of incubation, statistics show that out of one hundred and six cases noted, seventy-three occurred during the first sixty days, the remaining thirty-three being irregularly distributed over a period of two hundred and forty days; hence the conclusion that after the sixtieth day from the bite the probabilities of escape considerably increase, and that after the ninetieth day immunity is almost certain. The older the victim, the shorter, as a rule, is the period of incubation.

In seventy-four cases death resulted during the first four days, life being prolonged beyond that time in sixteen cases only. The percentages of mortality from bites on different parts of the body were as follows: face, ninety; hands, sixty-three; arms, twenty-eight; legs, twenty-nine; and on the body, twelve out of nineteen cases were fatal.

Regarding methods of prevention, out of one hundred and thirty-four cauterized wounds, forty-two only were fatal, or thirty-one per cent., while in non-cauterized wounds we find that out of sixty cases the number of deaths was fifty-six, or eighty-four per cent.

The most effective treatment of wounds was found to have been the actual canter, stick caustic, and the stronger mineral acids.

The interesting fact is recorded that in Hayti, where the disease has been very prevalent, only one fatal case of hydrophobia was ever known, the natives' somewhat heroic treatment having been to burn gunpowder on the wound, following up this cauterization with the application of blisters, strong mineral acids, and mercurial salivation.

Touching the disposition of dogs, after being bitten, the writer said that they should not be allowed their freedom until after eight months' quarantine.

Dr. Stickney asked if rabid dogs always frothed at the mouth, and were flecked with foam, to which Dr. Lyman replied that such was almost never the case, except during excitement or the period of ferocity. *Per contra*, the saliva was usually thick, viscid, ropy, and hanging from the corners of the mouth.

Dr. Lawton inquired if the method of keeping dogs, different food and quarters, rendered them more or less liable to the disease, which the essayist decided did not, it always having been prevalent to a greater or less extent, among the best kept kennels of Europe.

Dr. Chapin asked if anything was known as to the positive cause of the disease, to which Dr. Lyman gave a negative answer.

Dr. Chapin inquired if, after a dog is bitten, it could communicate the disease by its bite before the earliest manifestations or development of the disease in itself. Dr. Lyman said it could not.

Dr. Bowles asked if there was any truth in the prevalent opinion that the Spitz dog was any more liable to the disease than any other species. Dr. Lyman gave it as his opinion that there was no foundation for such a belief.

Dr. G. C. McLean asked if male dogs were chiefly responsible for the spread of the disease; to which Dr. Lyman replied that facts did not warrant such a conclusion, and instanced certain countries where dogs of both sexes were allowed to rove together indiscriminately, and at all times, without apparently affecting the prevalence of the disease.

Dr. Stickney asked if any harm probably would result from the saliva of a rabid animal being swallowed by a healthy one. In replying to this question, Dr. Lyman gave a report of a well-authenticated case which occurred in the neighboring town of Westfield, where several fowls ate some meat which a rabid dog attempted to swallow, and not many days afterward they were seen to walk with a peculiar staggering gait, then to stop and fly straight up into the air, with a spiral motion, and suddenly fall to the ground, dying of exhaust-

ion. This fact tends to contradict a former statement, that saliva of a rabid animal must come in contact with an open wound in order to communicate the disease. Dr. Stickney reported the case of a horse, in West Springfield, which died of hydrophobia about two weeks since. Three weeks prior to the attack the horse was bitten on the lower lip by a dog. The first symptom of the disease was manifested by the horse as it attempted to bite its owner while he was unfastening him from the stall, the animal at the same time appearing generally vicious and uneasy. After returning the horse to his stall, the owner went aloft and lowered a rake handle into the manger, at which the horse snapped, finally breaking it in pieces. After this a tin pail of water was lowered into the manger, which the infuriated animal treated quite as roughly. Later on, the horse would bite his sides and legs, kick, and neigh with the peculiar altered tone of voice so characteristic of the disease. Subsequently the horse was secured upon his side, after which frequently recurring spasms set in, resulting in death from exhaustion.

Dr. Stebbins remarked that he took pleasure in the fact that recently a few animals had died of the disease, as it would tend to explode the popular opinion that *human victims* die from effects of fright and mental anxiety, rather than from the poison itself, as it could hardly be supposed that the cattle, horses, fowls, and recently a six weeks old calf were over anxious about themselves, or lay awake nights thinking about and anticipating the disease.

After the foregoing discussion of the essay several cases were reported of various kinds, which had recently occurred in the practice of individual members, when a motion to adjourn for two weeks was carried.

VITAL STATISTICS OF LIFE INSURANCE.

THE social as well as scientific interest of all problems relating to life, and the difficulty in the way of so eliminating irrelevant or even misleading factors as to draw satisfactory deductions from the ordinary census and tables of vital statistics, have led Dr. Oldendorff to attempt a novel plan of investigation, and to scrutinize the annual reports and account books of sixteen German life-insurance companies for the purpose of ascertaining what their statistics teach. This method, of course, excludes a consideration of the mortality in the early periods of life, and has to do with (1) the age when insured, (2) the date of insurance, (3) the date of death, (4) the cause of death. As only the names of picked men and women appear in the book of insurance companies, there is another source of error eliminated, in considering the influence of different trades on health, from the fact that the various individuals forming the basis of the analysis are supposed to be healthy at the start.

Considering the mass of statistics used and the different ways in which they were kept by the various companies, or indeed by the same companies at different times, the author has picked out their salient points with a considerable degree of ingenuity. The volume¹ before us is the first of a series and really

¹ *Der Einfluss der Beschäftigung auf die Lebensdauer der Menschen: nebst Erörterung der wesentlichen Todesursachen.* Beiträge zur Förderung der öffentlichen Gesundheitspflege, von DR. A. OLDENDORFF. Berlin. 1877. S. 106.

constitutes only an introduction to the subject. In dealing with a consideration of the correctness of the statistical method of research, and of the average age at death as a measure of the mortality in general and of the mortality from the different occupations, in the preliminary remarks, the striking fact is mentioned that examinations of the records for sixty-four years, in three different parts of Germany, showed the average age at death among steel-grinders who had passed their twentieth year to be respectively 41.24, 41.40, and 42.22 years, — the difference being so slight as to make a probability of error very small indeed. A full review of the influence of the various trades on health and duration of life is reserved for future volumes, which are to appear in series until the subject, the writer, or the reader is exhausted.

The first series of tables shows that in one company, in 10 years, among the insured, the average age at death of 1743 men was 56.70 years; of 261 women, 56.82 years. Another company in 28 years gives for 12,073 men the average age at death as 58.55 years, and for 999 women, 62.10 years. The aggregate of thirteen companies for a single year show for 2544 men an average age of 53.49 years, and for 439 women 48.55 years. Section 5 and the next series of tables show that the prevalence of epidemics in a community scarcely affects, even temporarily, the rates; and especially in the second, third and fourth great European cholera epidemics (1848-50, 1852-54, 1866) the relation between the number of the insured who died and the sum of years they lived did not essentially differ from the epidemic-free years. In analyzing the average age at death, in Section 6, the results show, so far as these tables are concerned, that the age at death of both sexes increases up to a certain point with the age of the company insuring, which is explained by the fact that among the earliest insured is a large proportion of young people who, of course, reduce the rates. It also appears that among women the relative number of the insured who die in the early ages of life is greater than with men; but their average duration of life is at all periods greater, a fact which, by citations from Engel, Oesterlen and Melbeck, is shown to be true of mixed populations. In all Geneva, — an exceptional city by the way, for it is doubtful whether there is anywhere another in which the general condition of the inhabitants is now so high — the average age at death of all persons over 20 years of age is for men 58.44 years, for women 59.54, and for both sexes together 59.01. In Prussia, the similar figures stand at 54.75 years for men: 55.52 for women; and in Berlin, 47.84 and 51.72 years respectively. In six districts of Germany the average for both sexes is 51.10 years. Some interesting statistics from De Neufville show that in Frankfort-on-the-Main the average age at death of those who have reached the age of twenty years is for the whole population, 51 years and 8 months; for the Christians, 50 years, 8 months; for Jews, 56 years, 7 months.

Four sections, comprising over forty pages, on the relations between the average age of the insured and of those having died are chiefly interesting from the final and only full table giving statistics of thirteen companies, by which it appears that of the insured the periods of greatest mortality among women are in order (1) over 61 and between the ages of 31 and 40, (2) 41-50, (3) 51-60, (4) 21-30; among men, the order is (1) over 61, (2) 41-50, (3) 51-

AVERAGE DURATION OF LIFE AT SELECTED AGES IN PERSONS TWENTY YEARS OLD
AND UPWARDS.

Age.	Sex.	AUTHORITIES.								
		Gotha Life Insurance Company, 1843-1870.	Gotha and Leipzig Insurance Companies, 1861-1870.	Statistics of Prussia, 1816-1890.	Statistics of Berlin, 1843-1890.	Twenty English Insurance Companies. ¹	Berne's Tables. ²	Farr's Statistics. ³	Finlison's Tables. ⁴	Quelet's Tables. ⁵
20	M.	38.55	39.37	34.75	27.84	42.1	40.3	39.5	38.4	36.4
	F.	42.10	42.10	35.52	31.72	44.0	40.9	40.3	39.1	37.7
25	M.	33.58	34.46	32.08	25.69	38.4	36.5	36.1	35.9	33.5
	F.	37.14	37.30	32.84	29.04	40.8	37.4	37.0	36.5	35.2
30	M.	28.81	29.77	29.08	23.20	34.7	32.7	32.8	33.2	30.5
	F.	32.41	32.76	29.37	26.90	37.6	34.6	33.8	33.6	32.0
35	M.	24.46	25.52	25.92	20.84	31.0	28.9	29.4	30.2	27.7
	F.	28.01	28.80	26.47	24.96	34.3	31.4	30.6	30.5	29.0
40	M.	20.68	21.76	22.85	18.55	27.4	25.4	26.1	27.0	24.9
	F.	24.09	24.77	23.62	22.71	31.1	28.2	27.3	27.2	26.1
45	M.	1	18.22	19.92	16.38	23.8	21.9	22.8	23.8	21.9
	F.	20.40	21.57	20.70	20.35	27.8	24.9	24.1	23.7	23.2
50	M.	14.19	15.01	17.08	14.39	20.3	18.6	19.5	20.3	18.9
	F.	16.75	17.85	17.64	17.70	24.4	21.6	20.8	20.2	20.3
55	M.	11.43	12.03	14.45	12.51	16.9	15.4	16.5	17.1	15.5
	F.	13.23	14.15	14.73	15.07	20.8	18.2	17.4	16.7	17.4
60	M.	9.06	9.46	11.83	10.67	13.8	12.4	13.5	14.4	12.4
	F.	10.52	11.18	11.87	12.43	17.3	14.9	14.3	13.6	13.9
65	M.	6.98	7.34	9.72	8.84	11.0	9.8	10.8	11.6	10.1
	F.	7.90	8.26	9.89	10.08	14.0	11.8	11.5	10.6	10.8
70	M.	5.51	5.69	7.76	7.01	8.5	7.6	8.5	9.2	7.6
	F.	5.78	6.41	7.87	7.85	11.0	9.1	9.0	8.2	8.3
75	M.	4.31	4.35	6.18	5.51	6.4	5.8	6.5	7.1	6.6
	F.	4.48	4.93	6.49	6.14	8.4	6.9	6.9	6.4	6.8
80	M.	3.06	3.13	4.92	4.26	4.7	4.3	4.9	4.9	5.2
	F.	2.96	3.13	5.40	4.82	6.5	5.6	5.3	4.9	5.4
85	M.	1.64	1.68	3.82	3.33	3.5	2.6	3.7	3.1	3.8
	F.	2.17	2.17	4.86	3.57	4.8	3.7	4.0	3.8	4.1

¹ Basis of calculations: 160,426 insured persons, of whom 120,243 were men and 16,604 women, excluding 11,146 ill, and 2433 exposed to lives of danger; 26,721 died.

² The result of sixty-nine years' experience of one of the German asylums.

³ Census of 1841 and of 1851; also mortality of England and Wales, 1838-1854, including 6,470,720 deaths.

⁴ From observation of 22,000 annuitants.

⁵ Census and Registration of Deaths in Belgium, 1856.

60, (4) 31-40. Another section gives, by way of illustration, similar statistics from Berlin and Frankfort, which are with some difficulty compared, as the three sets of calculations are not made on the same basis. The five sections might have been somewhat better arranged, but at best are of little use to any others than officers of insurance companies, and rather unsatisfactory even for them. The average duration of life¹ at the various ages of the population in Prussia, in Berlin, and of those who had insured their lives with the large insurance companies forms an interesting table, from which several important facts are to be learned. By comparing this with another table given by the author, and with a little rearrangement, the following exceedingly suggestive series of facts is shown.

It may be seen that after a given age, varying somewhat in the different places, the duration of life is less, in Germany, among the insured than with the uninsured. With this curious fact may be placed the statistics of the Gotha Insurance Company, by which it appears that the average age at death among the insured was :—

	For Men.	For Women.
1843-1852,	54.88 years.	56.70 years.
1853-1860,	58.46 "	62.31 "
1861-1870,	60.12 "	65.14 "

From the large table, we might infer that insuring life shortens it, after a certain age! But this apparent anomaly is not difficult of explanation. And from no better sources than the Gotha figures it has been "proved" that the duration of life is increasing so fast that at a similar rate we should be not many generations in becoming Methuselahs. However this general statement of an increase in longevity in modern times may be, neither Dr. Oldendorff's, nor any other statistics that we have been able to get, show that the three-score years and ten of thirty centuries ago are less than the days of our years now, or that the strength of fourscore is any less labor and sorrow than in King David's time.

The book is a useful contribution to sanitary literature, although too much given to unimportant details and therefore rather dry reading. By supplementing it with the excellent Preliminary Report of the Mortality Experience of the Mutual Life Insurance Company of New York, of which a second edition has lately been issued by Drs. Winston and Marsh and Mr. Bartlett, a mass of useful information may be got.

THE SEWERAGE OF BOSTON.

SEVERAL weeks after our accomplished city engineer had made his plans for extensive experiments testing the effect of the new main-drainage system upon the ground-water, and while those plans were in process of execution, a petition was presented to the city council that something of the sort might be

¹ In one table, the writer compares the *Mittlere Lebensdauer* (average duration of life) with the *Lebenserwartung* (expectation of life) in the other. But he apparently uses the two terms as synonymous, although such is not the custom with us and in England. He means, I suppose, the average duration of life.

done. In the mean time our daily papers have been quoting various paragraphs to the effect that Trinity Church and a large part of Boston are to be ruined by the intercepting sewer, through decay of the piles. A little knowledge of facts will easily satisfy any one that the ground-water now, in the drainage area of the Albany and Providence railroads, is so low (in places even at grade four) that it cannot possibly be affected by the new sewer. Indeed, it is doubtful whether there will be any effect from it on the Back Bay south of Commonwealth Avenue, beyond keeping the ground-water at a constant and uniform level, instead of fluctuating. There are good reasons for supposing that north of Commonwealth Avenue the grade of the ground-water may be lowered, although not enough to endanger houses that have been built of late years; but this is a matter of dispute among the engineers, some of them saying that we cannot appreciably affect the level of the ground-water, if we try, beyond keeping it at a fixed grade, which is not at present possible. This will be an immense gain from a sanitary point of view; and if the experiments now making show that the permanent level of the water in the soil will be lowered enough to do serious harm by the proposed system, measures will be taken to accomplish the desired object by a modification of the plans, which will be successful from all points of view. An impervious iron sewer, for instance, might be used. It is understood that the sole reason why the original commission placed the new sewer in Marlborough Street was to save expense; if it should be put along the Charles River, with an embankment and drive-way, many of the present objections would be removed. We should also gain a park of such value that the medical profession would probably unite in recommending it.

Another bugbear has appeared in articles by writers in the *London Times* and in the *Medical Times and Gazette*, from which quotations have been made in our daily papers. In all large rivers, especially at their mouths, there are thousands of tons of shifting material which change from year to year their positions in the river-beds,—in London, Liverpool, Boston, and elsewhere. In our city, the harbor commissioners have shown that the channels have not been in the slightest affected by the discharge of sewage from our present sewer-outlets, which are very much worse situated than the new single one will be, while the silting up of the docks at low tide will in the future be avoided. In Liverpool, the sewage is discharged at all times of the tide; and although there is some deposit at the bar of the harbor, the best engineers deny that it comes from the sewage. In London we do not know of a single first-rate authority who has given an opinion that the sewage of the city is obstructing the Thames, while Bazalgette, Hawkshaw, Bidder, Hawksley, Haywood, Gregory, Rawlinson, and other engineers of eminence state the opposite to be the fact. The only two bodies which have from year to year made measurements and drawn sections of the river at various points are the Thames Conservancy, whose interest and duty it is to protect the Thames, and the Metropolitan Board of Works, who have charge of the sewers. Their results are stated by Sir Joseph Bazalgette to be mutually confirmatory, and to show the following facts for the years 1861-76: In the fifteen years there has been some deposit; in the six years, 1861-67, up to the time of the adoption of the new outlets at Barking Creek and Crossness, respectively ten and

fourteen miles below London, there was more deposit than in the *nine* years, 1867-76, since the discharge of the sewage at those points, and this is shown not to be due to dredging. The Thames mud, too, is much heavier than the sewage, which is really so small a part of the whole amount of solid matter discharged into the river along its course that even the late Dr. Letheby, after repeated chemical examinations, said "the turbidity of the river is not caused by the sewage which flows into it, but by the disturbance of the mud upon its banks; for, within certain limits, the farther we go down the river, and away from the influence of the sewage, the greater is the turbidity." This position is also sustained by Hoffmann and Witt in the report of Messrs. Bidder, Hawkshaw, and Bazalgette.

Captain Calvert, whose name is a new one to us in this connection, made the recent surveys, and has only repeated complaints which have often been made before, in investigation of which the royal commission said, a few years ago, that "the balance of evidence is against the assertion that it [the deposit at Barking] has come from the metropolitan sewage detritus;" and that "the main channel of the Thames has not been reduced in depth of water by such detritus." Indeed, it has been shown that the channel has been gradually deepening since 1833, owing to the removal of the obstructions formerly due to the London and Westminster bridges, now removed. The reach, of three quarters of a mile in length, below the main outlet, which is alleged to have become obstructed, has been carefully measured by the Metropolitan Board of Works to ascertain the facts. From 1866 to 1868 there was a decrease in the deposit of 480,000 cubic yards; 1868-69, an increase of 142,000; 1869-70, a decrease of 216,000; 1870-71, an increase of 277,000; 1871-72, an increase of 279,000; 1872-73, a decrease of 260,000; 1873-74, a decrease of 53,000; 1874-75 a decrease of 100,000, and in the whole ten years a decrease of 411,000 cubic yards, showing, as has been repeatedly stated by their first engineers, that the causes of the deposit are variable, and not dependent on the sewage. With such a weight of testimony we should be slow to accept Captain Calvert's results, unless further investigation shows that all the prominent engineers of London have been for twenty years in the wrong.

The immense reservoir at Crossness for storing the sewage, so as to be discharged only during the first two hours of ebb tide, and the four pumping stations are ventilated by pipes passing into the chimneys of the engine-houses, so that there is absolutely no foul smell from them. Indeed, the low-level pumping-station on the north side of the river is just across the street from the Chelsea Hospital; and at the two great outlets there is no offensive odor that can be perceived a dozen rods.

In considering the somewhat heated discussions over the sewage question in England, it should be remembered that the subject has assumed there a strongly partisan aspect, and that many persons are interested, by patent processes and otherwise, in having one plan or another prevail. Statements of opinion, therefore, often come to us with the appearance of facts, and the various views are expressed with an intensity which we do not always understand here.

There is no danger of any serious check to the progress of so great a sanitary improvement, at the present time, as the new main-drainage scheme of

Boston. That it will be better for the health of the citizens to keep the ground-water at a uniform grade, beside lowering it somewhat, cannot be doubted. The removal of the putrid sewage which is now stinking in our sewers by a rapid, regular flow is absolutely essential; and improvements in those sewers which are badly constructed must soon follow. Then, and only then, in the thousands of cases where defective house drainage is filling dwellings with bad smells and pale faces, if not with actual sickness, the city authorities can say to the house-owners, the fault is your own and yours alone.

DR. JOSIAH BARTLETT.

DR. BARTLETT died at Concord on January 5th, at the age of eighty-one years. He had been longer in practice than almost any graduate of the Harvard Medical School, Dr. William Perry, of Exeter, N. H., and the late Dr. Martyn Paine, of New York, having, perhaps, practiced a few years more. He graduated at Harvard College in 1816, in the same class with the Rev. W. B. O. Peabody, and took his medical degree in 1819, in the same class with the late Dr. John Jeffries. Instead of going abroad, as Dr. Jeffries did, Dr. Bartlett, then twenty-three years old, settled in Concord in 1819, and has remained there ever since, in the constant practice of his profession for fifty-eight years. He visited patients within a week of his death, and has been an active physician since he passed the age of fourscore. His father, Dr. Josiah Bartlett, of Charlestown, was in practice at the time of the battle of Lexington, and amputated an arm on the 19th of April, 1775. A hundred years afterward the son was able and, indeed, rather desirous to perform the same operation, if it had been necessary, in his circuit of patients. This is a remarkable incident, as showing how many years both the father and the son continued in the exercise of their profession. He early became interested in the total abstinence movement, and was a faithful and efficient worker for that cause all his days, undergoing much persecution and slander and some loss of practice most cheerfully and courageously for what he sincerely believed a most necessary reform. He was wont to say that when he first came to Concord almost every substantial farmer was drunk, with all his farm hands, in haying-time and on holidays; now such doings are confined to very few persons, who suffer in repute thereby. He was absolutely without fear, and had the self-reliance so needful in a country physician. He was, however, never bold at his patient's expense. His strength and health were excellent, but he was a sufferer for many years from a fractured ankle, sustained at the time of a collision with another vehicle in the night, and of late years he had suffered from chronic bronchitis. The disease to which he succumbed was pneumonia. He has been the recipient of the highest honors which it was in the power of his professional colleagues in the Massachusetts Medical Society to bestow, and for two years was president of the society. He was, as has been said of him, the true type of the New England country physician; we might add, of the old school, which exerted an elevating and refining influence upon the profession of this and neighboring States, and which, we are happy to say,

has left its impress upon the present generation. Few who knew Dr. Bartlett will soon forget his hearty, genial bearing and his courteous manner. Another link which binds us to the early history of the Massachusetts Medical Society has been broken.

MEDICAL NOTES.

— We regret to learn that Dr. George E. Hersey, of Manchester, New Hampshire, died on Tuesday, January 8th, of diphtheria. For several weeks he had been in attendance on cases of this disease, and on the previous Friday the symptoms had first manifested themselves. There was evidence of marked septic poisoning from the outset, and on Monday laryngeal obstruction gave rise to so much dyspnoea that tracheotomy was performed by Dr. C. B. Porter, assisted by Drs. Abbott, Crosby, Sturgis, Pattee, and Bonney. He declined to take ether or chloroform, and bore the operation with great firmness. Although relief followed, the patient succumbed to the disease on the following day. Dr. Hersey was born September 1, 1847. He was a graduate of the New Hampshire Medical College, and afterwards a student at Bellevue College, where he became a warm friend of Professor Loomis. He has since practiced in Manchester, and, although a young man, had acquired a large practice, and a reputation as a surgeon which gave him a very prominent position in the profession of his State. He had contributed to the literature of the state society proceedings a number of papers on plaster bandages in fractures. He was an authority in expert testimony, and was frequently called upon the stand in that capacity. His loss will be greatly felt both in professional and social circles, where his skill as a physician and his character as a man were fully appreciated. The Manchester Medical Society, at a special meeting called for the purpose, and the Concord Medical Society have adopted resolutions of respect for the memory of the deceased.

— A bill has been presented to the legislature by the State Board of Health, requiring that no part of the sewage of the new state-prison be discharged into the Concord River until it shall have been purified or cleansed in a satisfactory manner. A similar act, last year, was passed with reference to the sewage of the Danvers Hospital. A sewage-farm is already in operation at the new Worcester Insane Asylum, and preparations have been made to irrigate with the overflow from a large cess-pool at the prison for women in Sherborn, the solid deposit to be removed from time to time.

— We are glad to announce the appointment of Dr. A. D. Sinclair as visiting physician to the Boston Lying-In Hospital in the place of Dr. Tuck, who has lately resigned. Dr. Sinclair's peculiar fitness for this position makes his selection a happy one. He will bring to his duties an experience and ability which cannot fail to be of great benefit to the hospital.

— The attention of the profession in New England is called to the announcement of Parrish Hall, the medical home for opium habitués, in Brooklyn, New York. It is the only private remedial retreat of which we know, exclusively devoted to the welfare of such unfortunates, offering a quiet, retired home, and provided with facilities for treatment, attended so far, we have been informed, by satisfactory results.

— A hearing was held on the 10th instant by the State Board of Health in the case of *Petitioners v. Henry James, of Cambridge*. The defendant makes soap and renders house-grease where there are several dwelling-houses within a distance of two hundred feet. He had introduced covered kettles, and conducted the steam and gases from the process of rendering under his furnace fire. The board adjudged that the defendant's methods are not sufficient to prevent offensive odors, and he will be required to "cease and desist" by the first of March. The same decision was also given in the case of *Messrs. Norton*, in the same neighborhood, in whose case there was a hearing some weeks ago.

— As many cases of diphtheria of a virulent and epidemic form have lately occurred, the Imperial Sanitary Office at Berlin has directed the different federal governments to issue orders to doctors, under pain of punishment, to announce at the police station, within twenty-four hours, any cases in their jurisdiction.

— A letter to the *Medical Press and Circular* states that the effect of the Contagious Diseases Acts has been to increase the average age of prostitutes who are registered by driving the younger women into other modes of life. Hence, while they are warned off, the older women remain.

— Paris is receiving large consignments of lower jaws from Bulgaria, the value of which depends upon the soundness, regularity, and whiteness of the teeth, which are extracted after the arrival of the jaws in the city to which they are sent.

— Various communications to the journals make it apparent that the sulphate of cinchonidia — which costs eighty per cent. less than the quinia sulphate — is an anti-periodic, equally useful. A New York physician, however, claims that his patients are charged nearly the same price by the druggists.

BOSTON CITY HOSPITAL.

SURGICAL CASES OF DR. G. W. GAY.

[REPORTED BY O. H. MARION, HOUSE SURGEON.]

CASE I. *Hæmatoma of Breast.* — Miss P. (colored), twenty-two years of age, came to the hospital July 27, 1877, with a tumor in her right mamma. She affirms that fourteen years ago, while playing on the ice, it gave way, and she fell through, receiving quite a severe blow on the right mamma; since that time she has had a hard mass just below the nipple. Seven months ago it began to increase slowly, and to become painful; is now about the size of a goose egg; no heat, and but little tenderness on pressure. It was circumscribed, firm, and movable independently of the muscle.

August 3d. Patient was etherized. Dr. Gay made an incision over and upon the tumor, exposing a dark mass, encysted; by gentle pressure the mass, resembling very much a kidney in appearance and texture, was squeezed out from its sac; the sac, being firmly adherent, was left to slough away. Suppuration was very slight through the whole process of healing.

August 28th. Patient discharged, well. The tumor was subjected to Dr. Bolles for microscopical examination, who reported it a hæmatoma. It should

be stated that the operation and dressings were done under Lister's method, which may account for the slight amount of suppuration.

CASE II. *Strangulated Inguinal Hernia; Operation; Death.* — J. O'N., aged sixty-eight, came to the hospital September 15, 1877, at three p. m., having sojourned for some time past in the charitable institutions of New York. He asserts that twenty years ago he was ruptured while lifting a heavy weight. Has always worn a truss, and has been able to return the intestine, whenever it came down, up to this date, when his efforts after an hour's trial failed. When the patient entered the hospital the hernia had been irreducible for four hours. No vomiting nor much pain. Bowels constipated for three days. The scrotal tumor was hard and tense, about the size of a small cocoa-nut. Pulse pretty fair, but "beady," owing to the atheromatous condition of the arteries. No great effort was made to reduce the hernia, from the fact that it had been worked over for an hour previous to entering the hospital. Patient put to bed, ice-bags applied to irreducible mass, and opium given *pro re natâ*. Nine p. m. Patient had vomited several times, otherwise quite comfortable; hernia not reduced.

September 16th, twelve o'clock m. Patient etherized. Dr. Gay tried taxis without success; he then aspirated, and drew off from the sac about one ounce of bloody serum, in which a soft coagulum formed. Taxis was again tried, and again failed. An incision about two inches long was made through the tissues down to the sac; the constricting fibres of the external ring were cut. Taxis again failed. The sac was opened and the bowel exposed; it was of a dark maroon color, did not extend into the scrotum, but filled the inguinal canal. Constriction was found at the internal ring, was divided, and the intestine, which was slightly adherent to the sac, returned with some difficulty. The sac was adherent to the canal, and contained several nodular enlargements of thickened and adherent omentum. Patient rallied well from ether, but refused to take nourishment or stimulus by the mouth, was very fractious, and succeeded once in removing the dressing, so that the bowel came down; it was replaced, and subcutaneous injection of morphine and a brandy enema were given. Four p. m. Patient began to be cyanotic and unconscious; death ensued an hour later, five hours after the operation. On examination after death, no peritonitis was found. The stricture had been entirely relieved, and the bowel was in its normal position.

CASE III. *Separation of Left Sacro-Iliac Synchondrosis; Fracture of the Left Transverse Processes of the three last Lumbar Vertebrae; Profuse Suppuration; Death.* — W. S., sixteen years of age, was admitted to the hospital July 11, 1877, having fallen from a team, the wheel passing over his body in the region of the pelvis, just how patient was unable to state. On examination, slight mobility with crepitus was detected only once; some tenderness over lower portion of back, a large ecchymotic spot over left trochanter major, and hyperæsthesia of adjacent parts, with considerable pain on motion of limbs. Patient catheterized, and slightly bloody urine drawn from bladder. With the exception of some intestinal disturbance and retention of urine, patient went on very well, apparently improving up to July 27th, when he was seized with severe cramps in left thigh simulating sciatica; these continued several days.

August 9th. Swelling and tenderness over left groin.

August 12th. Pain and tenderness more intense, with considerable fullness above and below Poupart's ligament; at this date patient's temperature commenced to rise, and increased up to August 19th, when it was 104.8°, patient slightly wandering in mind and at times drowsy. From this last date the temperature began to subside, reaching the normal point August 25th, when patient appeared much brighter and better, having had no chills accompanying the fever. Poultice has been continuous to groin. Considerable edema of foot and leg.

September 3d. Edema of leg subsiding; patient desired to sit up, and was permitted to do so for a little while at a time.

September 14th. Decided fullness in inguinal region, with apparent fluctuation. Dr. Gay aspirated with negative results, except a little clotted blood on the needle; poultice continued.

September 20th. Moves both legs without pain; feels much better.

September 30th. Ungt. iodinii applied instead of poultice.

October 8th. Swelling in left inguinal region quite prominent.

October 13th. Fluctuation well marked on surface and per rectum; parts quite soft.

October 17th. Dr. Gay being absent from the hospital on account of sickness, Dr. Ingalls aspirated the patient, introducing the needle about three inches above superior spine of ilium, and towards median line, removing eleven ounces of *very dark fluid of most offensive odor*. The following day, the patient being etherized, a free incision was made just below the anterior superior spine of ilium, and twenty-seven ounces of the same characteristic fluid of the previous day evacuated.

November 3d. Up to this date there has been a copious discharge of the same offensive fluid; patient gradually failing. This morning an opening presented itself near the junction of the sacrum and ilium, left side, through which flowed large quantities of very foul fluid; the stench was almost unbearable. Patient failed rapidly, and died November 7, 1877.

Autopsy, eight hours after death. Subject was extremely emaciated. Despite the utmost care, extensive bed-sores exposed the greater portion of sacrum, a part of the iliac crests, and spinous processes of several vertebrae. Pericardium very much distended, containing five ounces of straw-colored fluid. Left lung compressed, owing to distention of pericardium. Right lung bound down by old adhesions; otherwise normal. Left kidney bound down by firm adhesions; removed from its sac it was pale and small; the cortical substance was very much diminished. Beneath the fascia which covers in the quadratus lumborum, psoas, and iliacus muscles on the left side, pus was burrowing in every direction, from around the kidney down the sheath of the muscles to below Poupart's ligament, and down both sides of rectum. The psoas, iliacus, and quadratus of left side were in a dark sloughing condition. The transverse processes of the three last lumbar vertebrae of left side were completely separated. There was a partial separation of left sacro-iliac synchondrosis. The greater portion of the left ilium was completely denuded, undergoing a process of decay. The bladder and rectum were not injured.

LETTER FROM DR. SAYRE.

[*Spinal Disease and Spinal Curvature.*]

MR. EDITOR,—In a review of my book on Spinal Disease and Spinal Curvature, their Treatment by Suspension and by the Use of the Plaster-of-Paris Bandage, by B. B., in your most valuable JOURNAL of January 3, 1878, I find some observations that call for a passing comment.

In speaking of caries of the spine and the treatment which I have recommended, the reviewer says, "The principle upon which this device is founded is undoubtedly the true one, namely, that upon which we act when treating a fractured bone. The diseased spine should be kept immovable, and it should be relieved of all superincumbent weight." This is perfectly true and in exact accordance with my teaching, but he immediately follows with the most extraordinarily contradictory sentence, namely, "That it will supplant all other treatment, and that it is applicable to every case of caries of the spine, and in all its stages, surgeons who have experienced or have witnessed the remarkable results of absolute rest will be slow to believe."

If the *principle* of treatment, as he admits, is *correct*, why is it not applicable in *all* cases where it can be applied? I can see no reason why any patient should be deprived of the benefits of a plan of treatment, the principle of which is admitted to be correct.

The absolute rest in the recumbent posture of which he speaks, while it removes the superincumbent weight, yet unless *combined with extension*, to overcome reflex muscular contractions, will not prevent interstitial absorption of the bodies of the vertebrae; and the patients often recover with more or less deformity, even when they have been kept in the recumbent posture for years, and under the care of the best medical advice. I remember the case of Miss W., of Boston, which occurs to me at this moment, but I have seen many others.

If the diseased portion of the spine can be relieved from undue pressure by proper extension, and the parts kept *absolutely immovable* by the proper application of a plaster-of-Paris jacket, which at the same time allows free exercise in the open air, I contend that all cases of spondilitis where it is applicable should have the benefit of this plan of treatment until a better one is devised, and that to confine such cases to a horizontal position for many months, it may be for years, is highly reprehensible, and should be discounted.

The portion of my book referring to rotary-lateral curvature seems to be entirely misunderstood by my reviewer, as any one can see by reading the work. He has not read it with care, or, if so, has certainly misunderstood it. He represents me as having recommended the same treatment in both affections, whereas I have strenuously endeavored to do directly the opposite.

My reviewer says, "We can hardly imagine any combination of circumstances which would induce us to incase a young, growing girl, in the early stages of lateral curvature, in plaster-of-Paris." This sentence would lead the reader to infer that my work did advise such practice, when I distinctly

state on page 98, "In slight cases, and in the early stages of lateral deviation of the spine, self-suspension, if regularly practiced, will *alone* suffice to bring about a cure." It is only in the cases of confirmed scoliosis that I have advised the use of the plaster-jacket, which is to be applied while the patient is self-suspended, so as to obtain all the improvement in position possible, and which, fitting with accuracy, gives the patient better support than any instrument yet devised, thus enabling him to take the active exercise which is so essential to his restoration. The practical test of its value is in the testimony of the hundreds who have used it, and I feel quite confident that if B. B. will give it a fair trial he will be as strong an advocate of the treatment as I am.

Thanking him most cordially for bringing it before the profession, and only wishing to draw his attention to some points which he has inadvertently overlooked, I am, respectfully,

LEWIS A. SAYRE.

COMPARATIVE MORTALITY-RATES.

	Estimated Population, July 1, 1878.	Deaths during week ending January 5, 1878.	Annual Death-Rates per 1000 living.		
			For the Week.	For the Year 1877.	Mean of ten Years, '68-77.
New York.	1,093,171	503	23.92	24.32	28.71
Philadelphia.	876,118	312	18.46	18.80	21.54
Brooklyn.	549,438	200	18.93	21.51	25.50
Chicago.	460,000	111	12.55	17.83	22.39
Boston.	375,476	146	20.22	20.10	24.34
Providence.	104,500	58	28.85	18.81	19.20
Lowell.	55,798	12	11.18	19.09	22.50
Worcester.	54,937	20	18.94	21.07	22.30
Cambridge.	53,547	30	29.13	18.69	20.83
Fall River.	53,207	18	17.59	21.35	24.96
Lynn.	35,528	6	8.78	20.42	19.67
Springfield.	33,981	6	9.19	16.04	19.77
Salem. †	27,140	9	17.24	20.05	21.12

OBSTETRICAL SOCIETY. — At the annual meeting of the Obstetrical Society of Boston, held January 12th, the following officers were elected: President, W. C. B. Fildfield. Vice-Presidents, C. D. Homans, S. L. Abbot. Treasurer, W. L. Richardson. Recording Secretary, C. W. Swan. Corresponding Secretary, H. Curtis. Prudential Committee, William Ingalls, A. D. Sinclair, F. Minot, C. D. Homans. Committee on Publication, B. E. Cotting, F. W. Draper, G. J. Arnold.

BOSTON SOCIETY FOR MEDICAL OBSERVATION. — At a meeting of the society to be held on Monday evening next, at eight o'clock, at its rooms, 36 Temple Place, Dr. Porter will read a paper upon Cases of Plastic Surgery, with exhibition of patients and photographs.

BOSTON SOCIETY FOR MEDICAL IMPROVEMENT. — At the annual meeting held on Monday evening, Dr. E. G. Cutler was elected Treasurer and Secretary, in place of Dr. Greenough, who had served seven years, and declined reelection.

BOOKS AND PAMPHLETS RECEIVED. — The Science and Art of Surgery, being a Treatise on Surgical Injuries, Disease, and Operations. By John Eric Erichsen, F. R. S., F. R. C. S. Revised by the Author from the Seventh and Enlarged English Edition. Philadelphia: Henry C. Lea. (A. Williams & Co.)